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3. The method of claim 1, wherein the B-cell proliferative disorder is a hematological malignancy.

4. The method of claim 3, wherein the hematological malignancy is a non-Hodgkin lymphoma.

5. The method of claim 3, wherein the hematological malignancy is selected from the group consisting of chronic lymphocytic leukemia, small lymphocytic lymphoma, and Waldenstrom's macroglobulinemia.

6. The method of claim 3, wherein the hematological malignancy is selected from the group consisting of mantle cell lymphoma, follicular lymphoma, marginal zone lymphoma, and ABC-diffuse large B-cell lymphoma.

7. The method of claim 1, wherein the human subject has previously undergone a bone marrow transplant.

8. The method of claim 7, wherein the human subject has previously undergone an autologous bone marrow transplant.

9. The method of claim 3, wherein the hematological malignancy is relapsed or refractory.

10. A method of inhibiting proliferation and survival of activated B-cells in a human subject suffering from a B-cell proliferative disorder, comprising:

orally administering to the human subject suffering from a B-cell proliferative disorder a therapeutically effective amount of 1-((R)-3-(4-amino-3-(4-phenoxyphenyl)-1H-pyrazolo[3,4-d]pyrimidin-1-yl)piperidin-1-yl)prop-2-en-1-one (Compound 13),

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wherein the therapeutically effective amount of Compound 13 is an amount that results in >90% of the Btk active sites in the peripheral blood mononuclear cells of the human subject being occupied by Compound 13 twenty-four hours following said administration, and wherein proliferation and survival of the activated B-cells in the human are inhibited.

11. The method of claim 10, wherein the B-cell proliferative disorder is a hematological malignancy.

12. The method of claim 11, wherein the hematological malignancy is a non-Hodgkin lymphoma.

13. The method of claim 11, wherein the hematological malignancy is selected from the group consisting of chronic lymphocytic leukemia, small lymphocytic lymphoma, and Waldenstrom's macroglobulinemia.

14. The method of claim 11, wherein the hematological malignancy is selected from the group consisting of mantle cell lymphoma, follicular lymphoma, marginal zone lymphoma, and ABC-diffuse large B-cell lymphoma.

15. The method of claim 10, wherein the human subject has previously undergone a bone marrow transplant.

16. The method of claim 15, wherein the human subject has previously undergone an autologous bone marrow transplant.

17. The method of claim 11, wherein the hematological malignancy is relapsed or refractory.

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